Executive Summary

In accordance with section 105(c) of the Bipartisan Congressional Trade Priorities and Accountability Act of 2015, this report, by the U.S. International Trade Commission (Commission or USITC), assesses the likely effects of the Trans-Pacific Partnership Agreement (TPP, TPP Agreement, or the agreement) on the U.S. economy as a whole and on specific industry sectors. It encompasses TPP's impact on the United States' gross domestic product (GDP), exports, and imports; U.S. aggregate employment and employment opportunities; the production, employment, and competitive position of U.S. industries likely to be significantly affected by TPP; and the interests of U.S. consumers. The report also reviews other assessments of TPP's economic effects available in the literature, and discusses areas of consensus and divergence between the Commission's analyses and conclusions and those in the literature reviewed.

This executive summary gives an overview of the agreement; presents the Commission's principal findings as to the likely economy-wide effects of TPP, specific sectoral effects, and the expected effects of TPP's cross-cutting rules and other provisions; and briefly summarizes the relevant economic literature.

Main Findings

The Commission used a dynamic computable general equilibrium model to determine the impact of TPP relative to a baseline projection that does not include TPP. The model estimated that TPP would have positive effects, albeit small as a percentage of the overall size of the U.S. economy. By year 15 (2032), U.S. annual real income would be $57.3 billion (0.23 percent) higher than the baseline projections, real GDP would be $42.7 billion (0.15 percent) higher, and employment would be 0.07 percent higher (128,000 full-time equivalents). U.S. exports and U.S. imports would be $27.2 billion (1.0 percent) and $48.9 billion (1.1 percent) higher, respectively, relative to baseline projections. U.S. exports to new FTA partners would grow by $34.6 billion (18.7 percent); U.S. imports from those countries would grow by $23.4 billion (10.4 percent).

Among broad sectors of the U.S. economy, agriculture and food would see the greatest percentage gain relative to the baseline projections; output would be $10.0 billion, or 0.5 percent, higher by year 15. The services sector would benefit, with a gain of $42.3 billion (0.1 percent) in output. Output in manufacturing, natural resources, and energy would be $10.8 billion (0.1 percent) lower with the TPP Agreement than it would be compared with baseline estimates without the agreement.

Many stakeholders consider two new electronic commerce provisions that protect cross-border data flows and prohibit data localization requirements to be crucial to the development of cross-border trade in services, and vital to optimizing the global operations of large and small U.S. companies in all sectors.

TPP would generally establish trade-related disciplines that strengthen and harmonize regulations, increase certainty, and decrease trade costs for firms that trade and invest in the TPP region. Interested parties particularly emphasized the importance of TPP chapters addressing intellectual property rights, customs and trade facilitation, investment, technical barriers to trade, sanitary and phytosanitary standards, and state-owned enterprises.

Overview of Findings

Economy-wide Assessment

The TPP Agreement would affect the trade and investment relationship between the United States and the region in many areas. In addition to the United States, the parties to the agreement are Australia, Brunei Darussalam,[1] Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Vietnam. Together, these countries accounted for 36 percent of global GDP in 2014. The United States already has FTAs in force with Australia, Canada, Chile, Mexico, Peru, and Singapore. The agreement would influence bilateral trade in goods and services, rules governing trade and investment, and the regulatory environment facing U.S. exports to the region. The overall impact of the TPP Agreement would be small as a percentage of the overall size of the U.S. economy; it would be stronger with respect to countries with which the United States does not already have a free trade agreement (FTA) in force: Brunei, Japan, Malaysia, New Zealand, and Vietnam.

The quantitative assessment in this report estimates the economic effects of TPP provisions related to tariffs and tariff-rate quotas; selected nontariff measures affecting trade in goods and cross-border trade in services; and restrictions affecting foreign investment, compared to a baseline estimate of economic growth in the absence of the TPP Agreement. Table ES.1 summarizes the agreement's estimated macroeconomic effects on the U.S. economy, based on Commission economic model simulations.[2]

Table ES.1: Economy-wide effects of TPP: Changes relative to baseline in 2032 and 2047

	2032		2047	
	Billion $	Percent	Billion $	Percent
Real income	57.3	0.23	82.5	0.28
Real GDP	42.7	0.15	67.0	0.18
Employment (full time equivalents, thousands)	128.2	0.07	174.3	0.09
Capital stock	171.5	0.18	343.5	0.24

Source: USITC estimates.
Note: Dollar values are in 2017 prices.

The Commission estimates that by 2032, U.S. real GDP would be $42.7 billion (or 0.15 percent) higher than a baseline scenario that reflects expected global economic conditions without TPP.[3] Real income, a measure of economic welfare that measures consumers' purchasing power,

[1] Hereafter Brunei.
[2] Among other inputs, the Commission's modeling analysis also reflects U.S. industry representatives' assessment of how the provisions affect their respective sectors.
[3] For the analysis, an entry into force in 2017 is assumed. 2032 would be year 15 of the agreement, at which time most TPP provisions would have been implemented.

would be $57.3 billion higher (or 0.23 percent) over the same time period. Employment would be 0.07 percent higher, or close to 128,000 full-time equivalents. These gains would be slightly higher after 30 years (that is, 2047), when all provisions of the agreement would be in force. By 2047, real GDP would rise by $67 billion (0.18 percent); real income, by $82.5 billion (0.28 percent); and employment, by 0.09 percent, or nearly 174,000 full-time equivalents, compared to the baseline.

According to Commission estimates, U.S. exports to TPP partners will grow faster than U.S. exports to the rest of the world. U.S. imports from TPP partners will grow faster than overall U.S. imports, but not as fast as exports to TPP partners. By 2032, under the agreement, total U.S. exports to the TPP parties would be $57.2 billion (5.6 percent) higher than the baseline and U.S. imports from the TPP parties would be $47.5 billion (3.5 percent) over the baseline (table ES.2). Some of this impact would represent trade diversion from other trading partners to TPP parties. According to Commission estimates, U.S. exports to the world would be $27.2 billion higher (1.0 percent), while U.S. total imports would be $48.9 billion higher (1.1 percent).

Table ES.2: Effects of TPP on U.S. trade: Changes relative to baseline in 2032

	Exports		Imports	
	Billion $	Percent	Billion $	Percent
Trade with TPP partners	57.2	5.6	47.5	3.5
New FTA partners	34.6	18.7	23.4	10.4
Existing FTA partners	22.6	2.7	24.2	2.1
Trade with the world	27.2	1.0	48.9	1.1

Source: USITC estimates.
Note: Dollar values are in 2017 prices.

Sector-specific Assessments

Fifteen years after TPP's entry into force (2032), total U.S. exports and imports for each of the broadly defined sectors of the U.S. economy would exceed the level of the baseline estimate (table ES.3). Both exports and imports in the food and agriculture sector would experience the largest impacts from TPP in percentage terms. The Commission estimates that U.S. output and employment for the sector would both be 0.5 percent higher than the baseline estimate. This sector would experience the largest growth because it would experience the broadest liberalization under the agreement.

Table ES.3: Broad sector level effects of TPP on U.S. output, employment, and trade: Changes relative to baseline estimates in 2032

	Exports		Imports		Output		Employment
	Billion $	Percent	Billion $	Percent	Billion $	Percent	Percent
Agriculture and food	7.2	2.6	2.7	1.5	10.0	0.5	0.5
Manufacturing, natural resources, and energy	15.2	0.9	39.2	1.1	-10.8	-0.1	-0.2
Services	4.8	0.6	7.0	1.2	42.3	0.1	0.1

Source: USITC estimates.
Note: Dollar values are in 2017 prices.

In dollar terms, however, the manufacturing, natural resources, and energy (MNRE) sector, which accounts for the largest share of U.S. trade with the TPP parties, would see the largest absolute expansions in total exports and imports under TPP, although these changes represent smaller shares than for agriculture owing to the MNRE sector's much larger relative size. U.S. exports of MNRE products would be higher by an estimated $15.2 billion and U.S. imports would be $39.2 billion higher than the 2032 baseline. Nonetheless, U.S. MNRE output would be 0.1 percent lower by 2032, relative to the baseline in that year, and employment would also be lower, by 0.2 percent. Under TPP, the MNRE sector would not grow as quickly as the projected baseline, primarily because trade barriers are already low in many of these industries; liberalization would have a stronger positive effect in other sectors of the economy, which would likely cause resources to be reallocated away from MNRE. The model does not capture the costs associated with employment transition or temporary unemployment.

The services sector represents the largest share of the U.S. economy, and it would expand the most, in dollar terms, under TPP. U.S. imports and exports of services would be 1.2 percent and 0.6 percent higher in 2032, respectively, compared to the baseline. U.S. output in the services sector would be $42.3 billion higher in 2032, relative to the baseline, while output and employment would both be 0.1 percent higher.

Overview of the Agreement[4]

The TPP is a comprehensive trade and investment agreement that would remove most tariffs, some tariff-rate quotas (TRQs),[5] and many nontariff barriers to goods and services trade and investment between the 12 parties to the agreement. TPP also includes a wide range of regulatory provisions that would define rules for trade between the parties. These involve investment, intellectual property, government procurement, rules of origin for trade in certain

[4] USTR, Trans-Pacific Partnership Agreement, full text, https://ustr.gov/trade-agreements/free-trade-agreements/trans-pacific-partnership/tpp-full-text (hereafter "USTR, TPP full text").
[5] Tariff-rate quotas impose a low tariff on imports up to a certain ceiling (a country's quota), but a high tariff on imports exceeding the quota.

goods, customs facilitation, sanitary and phytosanitary measures, technical barriers to trade, competition policy, and labor and environmental standards, among other issues. The likely impacts of some of these provisions are difficult to quantify, but they have the potential to positively affect the U.S. economy by strengthening and harmonizing regulations, increasing certainty, and decreasing trade costs for firms that trade and invest in the TPP region.

Most tariff changes from TPP would apply to new U.S. FTA partners Brunei, Japan, Malaysia, New Zealand, and Vietnam, because few tariffs remain between the United States and its existing FTA partners. Table ES.4 summarizes the tariff elimination schedule under TPP as it applies to these five countries. Virtually all import tariffs affecting U.S. exports or imports would be eliminated by the time TPP is fully implemented at year 30; most would be eliminated as soon as the agreement enters into force. By year 15 of the agreement, TPP would eliminate more than 99 percent of the U.S. tariffs now imposed on imports from the five new FTA partners. Also by year 15, TPP would eliminate, on average, 98 percent of the tariffs facing U.S. exports to these countries.

Table ES.4: Tariff commitments with TPP partners with which the United States has no existing FTA, percent of tariff lines in respective schedule

		Brunei	Japan	Malaysia	New Zealand	Vietnam
U.S. tariff lines applied on TPP partners	Already zero	36.7	36.7	36.7	36.7	36.7
	Eliminated at entry into force	90.7	83.9	89.7	87.7	78.8
	Eliminated after 15 years	100.0	99.2	99.8	99.0	99.6
	Eliminated after 30 years	100.0	99.8	99.8	99.0	99.7
	Subject to TRQs under TPP[a]	0.0	0.2	0.2	1.0	0.3
TPP partner tariff lines applied on U.S. exports	Already zero	75.2	39.4	64.7	58.3	32.9
	Eliminated at entry into force	91.7	83.6	85.6	94.9	66.3
	Eliminated after 15 years	100.0	93.2	99.1	100.0	97.8
	Eliminated after 30 years	100.0	94.7	99.8	100.0	98.0
	Partially reduced or unchanged	0.0	3.5	0.0	0.0	0.1
	Subject to TRQs under TPP[a]	0.0	1.8	0.2	0.0	1.9

Source: USTR, TPP full text; USITC staff calculations.

[a] TRQs on some lines are slated to be completely eliminated by the time the agreement is fully implemented.

Approach

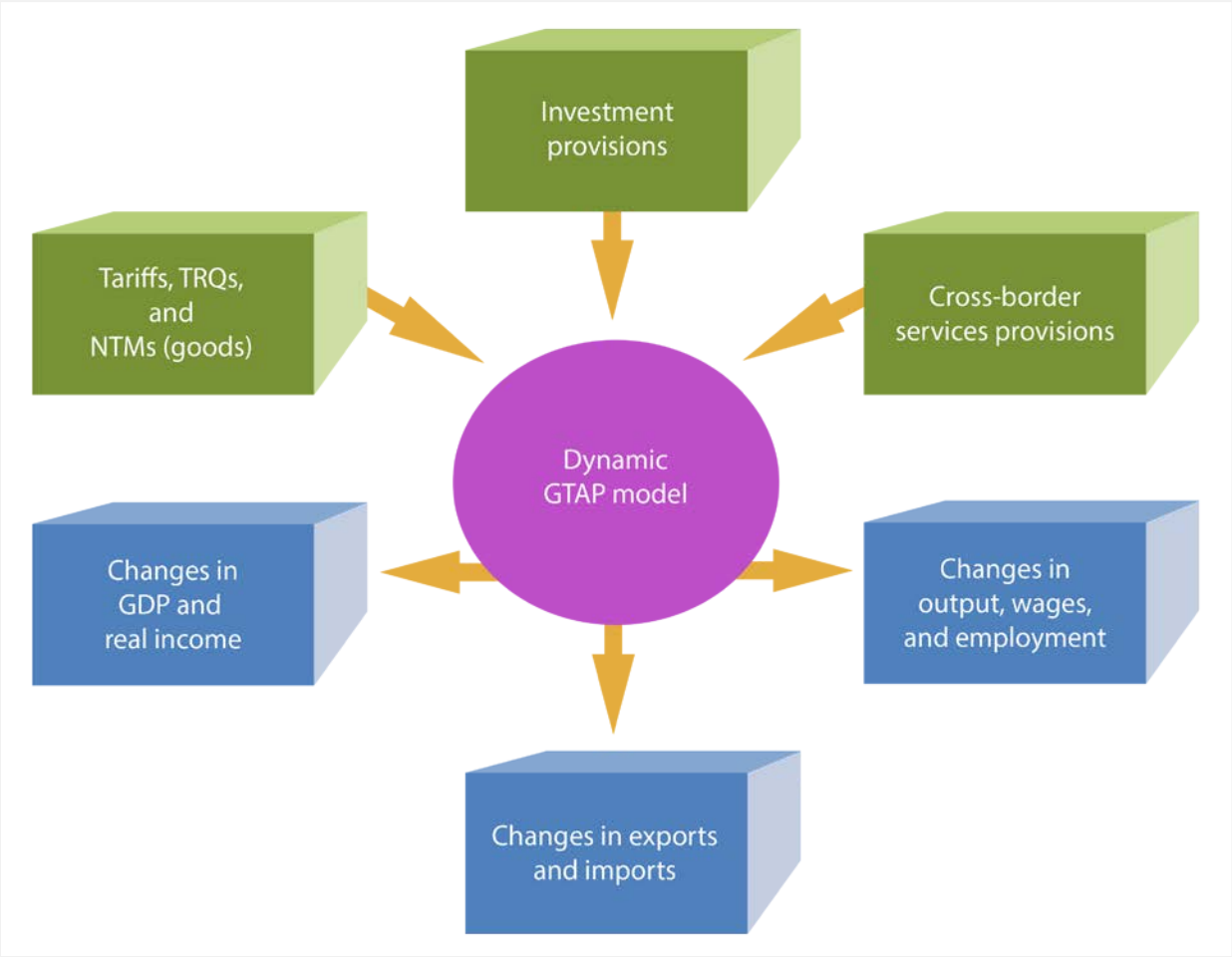
To assess the agreement, the Commission employed both quantitative and qualitative analyses. The Commission's quantitative analysis in this report relies primarily on simulations from a

dynamic computable general equilibrium (CGE)[6] model of trade among the 12 TPP countries and the rest of the world. The CGE model is based on the Global Trade Analysis Project (GTAP) model, an economy-wide CGE model of world trade specified at the sector level. The simulation analysis estimates the effects of TPP on U.S. real GDP and income; exports, imports, and production in the aggregate and by sector; and U.S. employment and wages by labor type (skilled vs. unskilled labor). Because of the dynamic nature of the analysis, the estimated effects capture the impact of TPP over time from entry into force, showing how the effects of immediate commitments differ from those of commitments over longer timeframes. The estimated effects also capture the agreement's reinforcing impact on U.S. economic growth during the period of implementation.

In the past, the Commission has assessed prospective FTAs using the CGE model to simulate the effects of the agreements' provisions regarding tariffs, TRQs, and selected nontariff measures (NTMs) for trade in goods. The current analysis goes further by also estimating the effect of TPP provisions on (1) NTMs affecting cross-border trade for certain services, and (2) restrictive measures affecting foreign direct investment (FDI). Figure 1.1 shows how TPP's provisions, once quantified, are integrated into the dynamic CGE model to obtain estimates of economic outcomes that take into account TPP liberalization in goods, services, and investment.

[6] A CGE model uses actual economic data to make a quantitative estimate of the way markets in an overall economy might react to changes in policy, technology, or other factors.

Figure ES.1: TPP provisions quantified in the main CGE analysis



Source: Compiled by USITC.

For TPP provisions that the Commission model analysis cannot quantify, the report provides a summary of the provisions of each TPP chapter, a summary of the views of interested parties as received by the Commission, and a qualitative assessment of the provisions' impact on the U.S. economy. In most cases, the qualitative assessment is based on a variety of sources, including the views of interested parties as expressed in testimony at the Commission hearing, written submissions provided for the record, public reports of trade advisory committees established under Section 135 of the Trade Act of 1974 (19 U.S.C. 2155), interviews by Commission staff, and Commission staff industry expertise. The assessments take into account publicly available estimates of the effects of the TPP Agreement from outside of the Commission. In order to evaluate the effect of certain intellectual property rights, the Commission presents the results of a separate econometric model that estimates the relationship between a country's patent protections and its payments to U.S. firms for the use of their intellectual property.

Industry-specific Impacts of TPP

Food and Agriculture Products

The TPP Agreement would provide positive benefits for the U.S. food and agriculture sector, primarily through new export market access in Japan and Vietnam—two countries where the agricultural sectors are currently protected by high tariffs. The increase in export opportunities as a result of additional access to TPP markets would outweigh the effects of the new access the United States would provide to TPP partners. However, export growth in certain sectors, such as horticulture and meats, would likely continue to be restricted by sanitary and phytosanitary (SPS) measures in certain markets. TPP would achieve only limited additional access for U.S. agricultural exports to Canada (in dairy, poultry, and eggs). Although total U.S. agricultural exports to Japan would increase significantly, access would be limited for a narrow basket of goods, particularly dairy, beef, pork, and rice.

TPP would benefit the sector primarily by reducing or eliminating tariffs and expanding access to markets protected by TRQs. TPP also outlines procedures for the administration of TRQs and establishes new SPS, technical barriers to trade (TBT), and modern biotechnology provisions. TPP countries would commit to eliminating export subsidies on agricultural products sold in TPP markets. The countries would also collaborate on developing rules on exports by state trading enterprises, as well as on export credits and insurance programs in the WTO. Table ES.5 provides Commission estimates for TPP's impact on selected U.S. food and agriculture industries likely to be significantly affected by the agreement.

Table ES.5: Estimated effects of TPP on U.S. food and agricultural output, employment, and trade: Changes relative to baseline in 2032

	Exports		Imports		Output		Employment
	Million $	Percent	Million $	Percent	Million $	Percent	Percent
Agriculture and food (total)	7,226.9	2.6	2,733.9	1.5	10,014.9	0.5	0.5
Selected industry sectors:							
Sugar, sweeteners, and SCP[a]	129.6	4.3	132.1	2.4	517.7	0.4	0.4
Dairy products	1,845.5	18.0	348.6	10.3	1,839.3	1.3	1.1
Beef meat	876.1	8.4	419.0	5.7	614.6	0.5	0.4
Pork meat products	219.3	1.9	94.4	4.4	180.3	0.3	0.3
Poultry meat products	173.9	1.3	-16.6	-3.6	265.8	0.6	0.6
Rice	-12.5	-0.3	15.3	1.6	-17.7	-0.1	0.0
Wheat	-1.5	0.0	18.2	1.5	-7.9	0.0	-0.7
Corn grain	-31.3	-0.1	2.5	1.3	206.7	0.3	0.4
Processed foods	1,540.0	3.8	427.2	1.1	2,396.5	0.8	0.7
Fresh fruit, vegetables, and nuts	574.9	2.0	119.2	0.5	172.1	0.2	0.3
Seafood	74.1	2.2	231.9	0.9	-51.5	-0.2	-0.2

Source: USITC estimates.
Notes: Dollar values are in 2017 prices. N.e.c. = "not elsewhere classified."
[a] Sugar-containing products.

Dairy

Overall, the TPP Agreement would have a positive impact on U.S. dairy exports and a more limited impact on U.S. dairy imports. The Commission's model results indicate that by 2032, new exports under TPP would exceed new imports by roughly $1.5 billion, compared to baseline estimates. Japan and Canada, important U.S. export markets, would lower selected tariffs over long phase-in periods, but both markets would remain highly managed even after TPP's full implementation. In the U.S. import market, dairy producers in Australia, Canada, and New Zealand would be granted additional access under TPP with new dairy TRQs. However, with two exceptions—butter and butter oil, and whole milk powder—imported dairy products no longer fill current U.S. import TRQs due to transportation costs to the United States and relatively high prices in Asia. TPP members are not expected to significantly increase exports to the United States from current volumes.

Beef

TPP is expected to lead to a substantial increase in U.S. beef exports and a moderate increase in U.S. beef imports. Most of the increase in exports would be to Japan, though exports to Vietnam would also increase, from a low base. Japan is currently the largest export market for U.S. beef, and Japan's 38.5 percent tariffs on fresh and frozen beef cuts would be reduced to 9 percent over 16 years. The TPP would also give U.S. beef producers parity with the access that Australian producers currently enjoy in the Japanese beef market, due to preferences under the Japan-Australia Economic Partnership Agreement. In addition, Vietnam's beef tariffs, currently as high as 34 percent, would be eliminated over 8 years. However, the increase in U.S. exports to Japan and Vietnam would likely be partly offset by a decline in U.S. exports to countries outside TPP. Most of the increase in U.S. beef imports under TPP would be from New Zealand. Model results indicate that, by 2032, U.S. beef exports would increase by nearly $876 million over the baseline, compared with an increase in U.S. beef imports of $419 million over the baseline.

Processed Foods

The TPP Agreement would have a positive impact on U.S. net exports of processed foods, compared to baseline estimates. The growth in exports would primarily result from tariff reductions in Japan and Vietnam. In certain TPP markets, U.S. exporters would gain from the leveling of the playing field with other competitor countries that already have tariff preferences owing to a previous FTA. TPP's impact on U.S. imports is likely to be smaller than on exports. Most U.S. imports of processed foods from TPP partners are from Canada and Mexico, which already face low or no tariffs because of NAFTA. Commission model results estimate that, by 2032, U.S. exports of processed foods would be $1.5 billion higher than the baseline estimate,

with the largest growth expected to Japan and Vietnam; imports of processed foods from all countries would likely be $427 million higher than the level in the baseline.

Manufactured Goods, Natural Resources, and Energy Products

Because a relatively small value of U.S. MNRE trade with TPP partners is currently dutiable, the direct impact of TPP is likely to be limited. The Commission's model results estimate that TPP would have a positive impact on total U.S. trade in manufactured goods and natural resource and energy products (MNRE products). As discussed above, overall TPP would result in an increase in exports of $15.2 billion (0.9 percent) above the projected 2032 baseline, and an increase in imports of $39.2 billion (1.1 percent) above the baseline. Output in MNRE sectors would be 0.1 percent ($10.8 billion) lower and employment 0.2 percent lower than the projected 2032 baseline. Some individual industries, such as titanium metal and auto parts, would experience lower growth from TPP as compared to the baseline. Passenger vehicles would likely benefit from TPP. Table ES.6 provides Commission estimates for selected MNRE industries.

Table ES.6: Estimated effects of TPP on U.S. MNRE output, employment, and trade: Changes relative to baseline in 2032

	Exports		Imports		Output		Employment
	Million $	Percent	Million $	Percent	Million $	Percent	Percent
Manufacturing, natural resources, and energy	15,187.5	0.9	39,245.4	1.1	-10,843.0	-0.1	-0.2
Selected industry sectors							
Chemicals	1,944.1	0.7	5,283.4	1.3	-2,854.8	-0.3	-0.3
Textiles	256.6	1.3	869.4	1.6	-328.5	-0.4	-0.4
Wearing apparel	10.3	0.3	1,891.3	1.4	424.7	1.0	0.9
Footwear	137.7	12.2	1,103.6	2.7	29.8	0.5	0.8
Titanium downstream products	-33.9	-1.1	115.4	14.2	-202.4	-1.2	-1.3
Passenger vehicles	1,953.9	1.9	2,371.7	0.8	1,628.3	0.3	0.3
Auto parts and trailers	1,219.8	1.2	3,039.2	1.6	-1,365.9	-0.3	-0.3

Source: USITC estimates.
Notes: Dollar values are in 2017 prices. N.e.c. = not elsewhere classified.

U.S. exports of MNRE products would benefit from the reductions in tariffs and elimination of nontariff barriers by TPP partners. For the five non-FTA partners in TPP combined, the share of tariff lines that are duty free for U.S. MNRE exports would increase from 53 percent to 86 percent upon entry into force of the agreement, with further tariff reductions phased in over time. The tariff rate reductions for MNRE products, however, are not as pronounced as in other sectors in general. Nonetheless, the elimination of these tariff barriers would result in a higher level (16.2 percent) of U.S. exports to new FTA partners and a 3.9 percent higher level in exports to all TPP partners compared to the estimated 2032 baseline. These benefits, though,

would be partially offset by a 1.6 percent lower level of exports to the rest of the world. Overall, U.S. MNRE exports would be 0.9 percent higher ($15.2 billion) compared with baseline estimates.

U.S. imports would rise faster than U.S. exports for manufactured goods, to 1.1 percent above the 2032 baseline estimate ($39.2 billion). U.S. imports from new FTA partners would be 11.3 percent above the baseline estimate and imports from all TPP partners would be 3.7 percent higher. Imports from the rest of the world would be 0.2 percent lower. MNRE goods from TPP parties would enter duty free under 84 to 91 percent of tariff lines at entry into force, though some of the highest-value imports—such as passenger vehicle imports from Japan—would not be duty free immediately.

Passenger Vehicles and Auto Parts

Overall, as a result of TPP, the Commission's model results estimate that the level of imports and exports of U.S. passenger vehicles and parts would be higher than the baseline estimate (table ES.7).[7] Passenger vehicle output would be $1.6 billion (0.3 percent) higher than the baseline estimate in 2032. For auto parts, output would be lower by $1.4 billion (0.3 percent) relative to the baseline in 2032. Exports to Japan and Vietnam would be the primary drivers of the increase in exports. Vehicle imports from Japan would be higher than the baseline, driven by the decline in U.S. tariffs on passenger vehicles; imports from NAFTA partners would also be higher than the baseline, due to higher U.S. demand for vehicles and parts. The TPP bilateral agreements to reduce nontariff measures, primarily with Japan, would be the most important factor in higher U.S. exports.

According to hearing witnesses, academic experts, and industry sources, the TPP rules of origin for passenger vehicles could have a negative impact on U.S. production of certain auto parts, but also could facilitate U.S. vehicle exports. Under the rules of origin, the regional value content (RVC) required for a vehicle to receive tariff preferences under TPP would be 45 percent, which is lower than required under NAFTA. Some observers have stated that the lower RVC will lead producers in NAFTA countries to source fewer vehicle parts from the United States, but others have said that the lower RVC may be necessary to facilitate U.S. passenger vehicle exports.

[7] Because of barriers that would continue to be reduced in this sector after 2032, table ES.7 also includes the impact on the U.S. passenger vehicle and parts industries relative to the baseline by the full implementation of the agreement in 2047.

Table ES.7: Estimated effects of TPP on U.S. output, employment, and trade of passenger vehicles and parts: Changes relative to baseline in 2032 and 2047

	Exports		Imports		Output		Employment
	Million $	Percent	Million $	Percent	Million $	Percent	Percent
Passenger vehicles							
2032 (15 years)	1,954	1.9	2,372	0.8	1,628	0.3	0.3
2047 (30 years)	2,899	2.2	4,272	1.1	1,429	0.2	0.2
Parts							
2032 (15 years)	1,220	1.2	3,039	1.4	-1,366	-0.3	-0.3
2047 (30 years)	2,062	1.5	4,516	1.5	-1,394	-0.2	-0.3

Source: USITC estimates.
Note: Estimates for year 15 are shown above to match results in other sector analyses. Year 15 includes all tariff and nontariff changes from the agreement directly affecting passenger vehicles and parts except for the removal of tariffs on U.S. imports of passenger vehicles from Japan. Percentages and values calculated for the projected 2032 and 2047 economies. Dollar values may not match the value produced by applying percentage changes in this table to values reported for the 2015 economy.

Textiles and Apparel

The Commission's model results estimate that U.S. imports of apparel would be 1.4 percent higher ($1.9 billion) as a result of TPP, compared with the 2032 baseline. These results reflect a 35.2 percent ($7.3 billion) increase in U.S. imports from new FTA partners compared with baseline estimates, which is partially offset by lower imports from non-TPP countries, including China. Vietnam in particular is expected to be the largest beneficiary in terms of increased U.S. apparel imports. Vietnam is already a competitive, major supplier of apparel to the U.S. market, ranking second after China. Nevertheless, initial growth in U.S. imports from Vietnam under TPP preferences would likely be moderated by Vietnam's limited ability to meet the TPP's yarn-forward rules of origin, coupled with long duty phaseouts for certain key products. For textiles, the Commission's model results estimate that U.S. imports under TPP would be 1.6 percent higher ($869 million) compared with the 2032 baseline. U.S. imports of textiles and apparel from TPP countries totaled $19.9 billion in 2015, accounting for 17 percent of total U.S. textile and apparel imports from the world ($118.5 billion).

The Commission's model results estimate that U.S. exports of textiles under TPP would be 1.3 percent higher ($257 million) than baseline economic growth, and U.S. exports of apparel would be 0.3 percent higher ($10 million) compared with the 2032 baseline. Certain textile subsectors would likely benefit more than others under TPP. According to industry sources, there may be some opportunities to increase U.S. exports of certain textiles on a limited scale to new FTA partner countries, including technical textiles and cotton and specialty yarns. U.S. exports of textiles and apparel to TPP countries totaled $7.9 billion in 2015, accounting for 54 percent of total U.S. textile and apparel exports to the world ($14.7 billion).

Footwear

TPP would likely result in an increase in U.S. footwear trade. U.S. imports of footwear from all countries would be $1.1 billion higher (2.7 percent) than 2032 baseline growth estimates. U.S. imports of footwear from the TPP countries would be $1.6 billion higher (23.4 percent) than the baseline; most of this increase would be accounted for by imports of footwear from Vietnam. The growth in U.S. footwear imports from TPP countries is expected to occur at the expense of China and other non-TPP footwear suppliers to the U.S. market. U.S. imports from China would fall by $400 million (1.3 percent) under TPP, compared with the non-TPP baseline. TPP's impact on U.S. footwear exports is expected to be small in absolute terms, with total U.S. footwear exports expected to be $138 million higher (12.2 percent). Most of these exports would be of footwear parts to Vietnam, to be used to assemble footwear for the U.S. market.

Titanium

The U.S. titanium industry would likely experience lower growth due to U.S. tariff reductions under TPP. The Commission's model results estimate that output in the downstream titanium industry would be 1.2 percent lower and employment 1.3 percent lower than the projected 2032 baseline. Under TPP, Commission estimates indicate that U.S. imports from Japan would more than double, contributing to a decline in U.S. exports and production. Japan is among the leading global titanium producers and is already the principal source of U.S. titanium imports, despite a 15 percent U.S. import duty on both unwrought titanium (titanium sponge, ingot, billet, and powders) and wrought titanium (e.g., bars, sheets, and tubes).

Chemicals

Under TPP, the Commission estimates that U.S. exports of chemical products, including pharmaceuticals, would be 0.7 percent higher ($1.9 billion) than baseline estimates; U.S. imports would be 1.3 percent higher ($5.3 billion) than the baseline, due in part to tariff reductions. This could result in decline in output, relative to the baseline, due to higher levels of imports than exports compared with baseline estimates. The modeling results indicate that by 2032 output would be 0.3 percent lower under TPP, relative to the baseline. Much of TPP's impact on trade is expected to center on the new FTA partners. In addition to tariff elimination and market access, industry sources identified rules of origin, regulatory harmonization, and transparency as generally positive factors in helping to reduce their costs of doing business in the TPP region. However, the data protection provisions for biologic products in the Intellectual Property Rights chapter raised concerns, as addressed in more detail below in this executive summary. The TPP would also include a Cosmetics Annex that is expected to harmonize regulations among TPP parties; among other things, this development would allow U.S. companies to enjoy benefits similar to those enjoyed by companies exporting from countries

with access to other regional agreements (e.g., it would address some labeling and regulatory requirements).

Impact on U.S. Trade in Services

The TPP Agreement contains market access provisions that liberalize cross-border trade in services with TPP partners, and national treatment provisions that enable firms to more easily establish a commercial presence in TPP markets. Three important sources of services liberalization in TPP are expected to contribute to significant reductions in trade costs for U.S. services exporters: (1) adoption of a "negative list" approach means that the agreement covers all services, present and future, unless a TPP signatory has listed specific exceptions known as nonconforming measures (NCMs); (2) fewer NCMs, compared with existing U.S. FTAs and each party's WTO commitments; and (3) cross-industry (horizontal) liberalization due to the data provisions included in the TPP's Electronic Commerce chapter (allowing greater freedom of data flows). In order to quantify the effects of services liberalization, these factors were included in the CGE analysis by estimating the value of reductions in trade costs for each factor in each sector and market. Other liberalizing aspects of the TPP arising out of the provisions for state-owned enterprises (SOEs) or IP, for instance, are likely to be significant, but were not able to be incorporated into the Commission's model.

The Commission's model estimates that output for the U.S. services sector under TPP would be $42.3 billion higher (a 0.1 percent increase) relative to the 2032 baseline level; employment would also be 0.1 percent higher. U.S. exports of services to TPP partner markets would be 10.8 percent ($16.6 billion) higher than the baseline estimate, but exports to non-TPP countries would be 1.9 percent ($11.8 billion) less than the baseline estimate. Overall, global U.S. services exports would be 0.6 percent ($4.8 billion) higher, relative to baseline estimates. Exports in two services sectors shown in the table (transportation, logistics, travel, and tourism and recreational and other services) would be lower than the baseline under TPP; these are sectors that would not experience significant liberalization under TPP, so the model assumes that economic resources would shift away from them, towards sectors that would be liberalized under the agreement. At the same time, overall U.S. services imports are estimated to be 1.2 percent higher ($7 billion) than the baseline estimate. Table ES.8 provides Commission estimates for selected services industries and the services sector as a whole.

Table ES.8: Estimated effects of TPP on U.S. output, employment, and trade in services: Changes relative to baseline in 2032

	Exports		Imports		Output		Employment
	Million $	Percent	Million $	Percent	Million $	Percent	Percent
Services	4,797.4	0.6	6,962.5	1.2	42,342.6	0.1	0.1
Selected industry sectors							
Wholesale and retail trade	848.7	2.5	542.4	1.2	7,447.5	0.1	0.1
Transportation, logistics, travel, and tourism	-1,258.4	-1.1	1,770.5	1.5	-719.9	0.0	-0.1
Communications	877.7	2.8	306.4	1.2	2,845.6	0.2	0.1
Financial services n.e.c.	-12.1	0.0	787.8	1.1	1,520.0	0.1	0.1
Insurance	34.4	0.1	703.5	1.1	707.9	0.1	0.0
Business services	4,575.5	1.6	2,031.5	1.2	11,576.0	0.2	0.1
Recreational and other services	-687.8	-1.5	199.3	0.9	1,749.8	0.1	0.1

Source: USITC estimates.
Notes: Dollar values are in 2017 prices. N.e.c. = not elsewhere classified. The services industries, which are addressed in detail later in this executive summary and in the report, do not track closely with the model results presented. The reason is that the services sectors defined in the GTAP database often aggregate several industries, while some services industries are spread among several GTAP categories. Electronic commerce is relevant to almost all GTAP services sectors. Computer services are mostly included in the GTAP business services category, but Internet service providers are included in the GTAP communications category, as are telecommunications. Except for insurance and pension funding, all financial services are included in GTAP's other financial services category. Professional services (engineering, legal, etc.) are included in the broad business services category. Express delivery services are mostly found in the broad transportation, logistics, travel, and tourism category, although courier services are included in the communications category. While broadcasting falls within the communications category, the remainder of audiovisual services are included in the recreational and other services category.

Digital Trade and Computer Services

The Electronic Commerce (E-commerce) chapter, together with other parts of TPP—including the chapters on Cross-border Trade in Services (CBTS), Intellectual Property, Investment, and Customs and Trade Facilitation—provides a broad framework for digital trade. Many observers have called TPP's digital trade-related provisions the most transformative measures in the agreement. U.S. providers of cloud computing, the Internet of Things, and big data[8] would have greater opportunities for trade and investment in important and growing markets. The expanded opportunities would likely strengthen U.S. companies' leading position in information and communications technology (ICT).

TPP's e-commerce provisions provide a framework for an open Internet that promotes electronic commerce by ensuring the free flow of digital information and prohibiting forced data and server localization measures. The agreement also prohibits customs duties on electronic transmissions; promotes electronic authentication and signatures and paperless trading; eases electronic transactions; and provides for increased privacy and online consumer protections. According to a broad range of industry representatives, the expanded e-commerce protections would likely benefit a wide array of large and small U.S. businesses across a broad

[8] These terms refer to recent innovations in the transmission, storage, and analysis of data using Internet technologies.

range of sectors, including many in which the United States has strong competitive advantages. Beneficiaries would not only include U.S. businesses with higher levels of digital intensity, including ICT firms (cloud computing and storage services providers, producers of audiovisual products, and providers of streaming services), but also manufacturers, retailers, and other services providers that are dependent on e-commerce and the Internet. At the consumer level, individual Internet users and cross-border shoppers would also be likely to benefit, through increased access to foreign sellers and lower prices.

Financial Services

The TPP would expand market access, national treatment, and most-favored-nation benefits for U.S. financial services firms in the region. The Financial Services chapter would also address the supply of insurance through postal insurance entities, requiring that publicly owned postal companies compete on a commercial basis and comply with the same regulations that apply to private suppliers. This provision would increase the competitiveness of U.S. insurers in TPP partner countries where postal insurance entities exist, such as Japan, and likely to lead to increased sales by U.S.-owned affiliate firms. Additionally, TPP would expand the circumstances under which U.S. financial services firms can arbitrate disputes through the investor-state dispute settlement (ISDS) mechanism. These provisions would likely encourage additional U.S. investment in these markets. Model results from the Commission estimate that, through 2032, output for insurance and other financial services in the United States would increase by 0.1 percent, as demand for these services expand due in part to overall economic growth spurred by TPP.

However, stakeholders have widely criticized two aspects of the Financial Services chapter. First, compared with non-financial firms, which are covered by the E-Commerce chapter, financial services firms would not benefit from TPP provisions prohibiting forced localization of data. Second, under TPP, Malaysia would maintain its government screening mechanism for investment in financial services, which permits the Malaysian government to approve new investment based on an undefined standard of what is determined to be in the best interest of Malaysia.

Express Delivery Services

TPP would benefit the express delivery industry by stimulating the expansion of merchandise trade, including e-commerce shipments, resulting in higher demand for express delivery services. The TPP's Annex on Express Delivery Services (within the Cross-Border Trade in Services chapter) and the express delivery-related provisions in the Customs Administration and Trade Facilitation chapter provide greater liberalization and more transparency than in previous U.S. trade agreements, and would help to improve market access conditions for U.S. express

delivery firms. Other TPP provisions that would benefit express firms appear in the Competitiveness and Business Facilitation, Electronic Commerce, Investment, Small and Medium-Sized Enterprises, Regulatory Coherence, and Transparency and Anti-Corruption chapters. Among other benefits, these chapters would strengthen FTA disciplines on investment, Internet access, data privacy protection, supply chains, and regulatory transparency—all important areas for express delivery firms. They would also help Small and Medium-sized Enterprises (SMEs) engage more effectively in international trade; these firms are a growing customer segment of the express delivery industry.

Professional Services

Under TPP, five countries (Brunei, Malaysia, Chile, Japan, and New Zealand) would scale back their exceptions to open trade in professional services at least to some degree. For Brunei, there would be new openings in architectural, engineering, and related services; accounting services; and legal services. In Malaysia, there would be new liberalization for architecture and engineering; accounting, auditing, and bookkeeping; and legal services. Chile and Japan would liberalize their markets for legal services; New Zealand would see openings in integrated engineering, urban planning and landscape, and architectural services; and Singapore would liberalize architectural, engineering, and auditing services.

Assessment of Cross-cutting and Procedural Provisions and Other Provisions Addressing Rules and Nontariff Measures

The impact of TPP's other provisions on the U.S. economy is generally difficult to quantify. These provisions would likely improve the overall regulatory climate for trade and investment between the United States and the other TPP parties, particularly for new FTA partners. In many ways, these provisions work together to form a web of more open and transparent trade rules for the benefit of all firms in the TPP region.

Many of the TPP cross-cutting chapters are included in existing U.S. FTAs, including Customs Administration and Trade Facilitation, Sanitary and Phytosanitary Measures, Technical Barriers to Trade, Investment, Government Procurement, Competition, Intellectual Property Rights, Labor, and Environment. The TPP also contains several chapters in domains that have not been included in existing U.S. FTAs, at least as stand alone chapters, although some provisions of these chapters may have been included in existing U.S. FTAs. These chapters include Temporary Entry of Business Persons, State-owned Enterprises, Cooperation and Capacity Building, Competitiveness and Business Facilitation, Development, Small and Medium-sized Enterprises, and Regulatory Coherence. Several of the chapters are specifically focused on helping small and

medium-sized enterprises and firms in developing countries to benefit from the FTA. Particularly notable outcomes in these chapters are summarized below.

As represented at the Commission's hearing and in written submissions to the Commission, many observers are generally supportive of the provisions in these chapters. Some, however, expressed concerns that U.S. firms might not realize the intended benefits if the chapters were not effectively implemented and enforced.

Intellectual Property Rights

Full and effective implementation of the intellectual property rights (IPR or IPRs) provisions of TPP would likely benefit U.S. industries that rely on trademarks, patents, copyrights, trade secrets, and other IPRs by reducing their losses from infringement and increasing exports and foreign sales opportunities for their products and services. For example, representatives of U.S. manufacturing and semiconductor firms support new requirements for stronger trade secret protections to address the growing international problem of trade secret theft. Regulatory changes would likely be most substantial in those countries that have negotiated transition periods for compliance with the chapter's requirements: Brunei, Malaysia, Mexico, Peru, New Zealand, and Vietnam. Transition periods are longest in Vietnam and Peru, particularly for protections related to biologic products.

Opposition to the IPR provisions has largely focused on the protections applicable to biopharmaceuticals. Representatives of innovator companies stated that the test data provisions applicable to biologic products are not strong enough, while representatives of nongovernmental groups considered them too strict. Still others suggested that the provisions represent a reasonable compromise, given a substantial difference of opinion in TPP countries.

TPP countries have been improving their patent protections since the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) entered into force in 1995, as they have sought to meet the requirements of TRIPS, FTAs, and other initiatives. The Commission's econometric model, which is separate from the main CGE model, shows that receipts from the use of U.S. intellectual property in TPP countries were 11 percent higher in 2010 than they would have been had patent reforms not occurred. Moreover, U.S. IP receipts would be expected to increase further as patent reforms continue under TPP.

State-owned Enterprises

TPP would be the first U.S. FTA to include a separate chapter on state-owned enterprises (SOEs). Generally, observers have seen this chapter as a positive step towards assuring that SOEs compete fairly when engaged in commercial activities. Under the chapter, SOEs and

designated monopolies must "act in accordance with commercial considerations" in the sale and purchase of goods and services, and parties must give nondiscriminatory treatment to the enterprises, goods, and services of other TPP parties. The provisions of the chapter would apply anywhere a SOE operates in the free trade area, meaning that the rules would apply not only to SOEs operating in their home countries, but also to covered SOE investments in the territory of other TPP parties. The chapter would also prohibit parties from giving noncommercial assistance to SOEs that would adversely affect the interests of other TPP parties.

Investment

The TPP Investment chapter provides new protections for U.S. investors abroad, primarily in the five TPP parties with which the United States does not already have a FTA, so TPP could promote some new U.S. investment, particularly in Brunei, Japan, Malaysia, New Zealand, and Vietnam. Because the U.S. economy is already substantially open to foreign investment, it is unlikely that TPP would generate significant new investment flows into the United States. The Investment chapter's Investor-State Dispute Settlement (ISDS) mechanism benefits U.S. investors in the five new TPP parties, but also in Australia; the U.S.-Australia FTA did not include ISDS. TPP includes several ISDS provisions that are new to existing U.S. FTAs, meant to clarify parties' right to regulate and to increase the transparency of the ISDS arbitration process. Finally, parties would be allowed to exempt from the ISDS process any claims challenging a tobacco control measure.

Environment

Most observers agree that TPP goes further than any other major trade agreement to address environmental concerns. As with other U.S. FTAs concluded since 2007, the Environment chapter is fully subject to TPP's dispute settlement process, although some observers have expressed concerns about whether the U.S. government would effectively enforce the chapter's provisions. The binding commitments related to marine fisheries subsidies would represent the first time that most TPP parties made an internationally enforceable obligation to limit such subsidies. Other, nonbinding provisions new to the TPP Environment chapter, compared with existing U.S. FTAs, cover transitioning to a low-emissions environment, removing barriers to environmental goods and services, and linking the Environment chapter to the SPS chapter in an effort to combat invasive alien species.

Labor

The TPP includes several labor provisions not contained in any previous U.S. trade agreement. These include requirements that all parties maintain laws that govern health and safety at the workplace, regulate work hours, and provide for a minimum wage. TPP also extends the existing prohibition on weakening worker protections so that it would cover export processing zones and other trade zones, as well as a measure discouraging imports produced using forced labor, among others. In addition, TPP includes three separate bilateral side agreements on labor which require Brunei, Malaysia, and Vietnam to undertake certain labor reforms before the agreement can take effect between the United States and those countries. Despite these new provisions, labor unions and other observers have expressed the belief that the TPP labor provisions are inadequate and unlikely to be enforced, and thus would do little to improve labor conditions in TPP parties. TPP labor obligations would not require changes in U.S. law, so would likely have little effect on working conditions in the United States.

Technical Barriers to Trade (TBT)

The TBT provisions of the TPP Agreement would likely benefit U.S. firms investing in and exporting to TPP parties. Cross-cutting provisions would apply to all sectors of trade in goods, and would require open, transparent, stakeholder-based systems of standards-setting in the TPP countries. In addition to the cross-cutting provisions, the chapter contains seven sector-specific annexes detailing particular standards, technical requirements, and conformity assessment provisions. While some of TPP's TBT commitments have been included in existing U.S. FTAs, many provisions are entirely new for all TPP Parties.

Sanitary and Phytosanitary (SPS) Standards

The provisions of the TPP Agreement would require TPP parties to maintain modern, science-based sanitary and phytosanitary measures in TPP parties. Most provisions of the chapter are subject to dispute resolution. The SPS chapter clarifies and builds on provisions of the WTO's SPS Agreement with provisions that are entirely new for U.S. trade agreements. Most stakeholders have expressed support for the SPS provisions, but others have raised concerns related to consumer safety, the definition of "science" as used in the text, and the right of parties to legislate. Letter exchanges and parallel negotiations between the United States and individual TPP parties have already addressed specific outstanding SPS market access issues for U.S. beef, pork, and other products.

Literature Review

Aside from the current report, the only other study that analyzes the final provisions of TPP in order to assess the agreement's impact on the U.S. economy is an analysis by Peter Petri and Michael Plummer, published by the Peterson Institute in 2016. Table ES.9 compares the Commission's findings with that of Petri and Plummer. In general, Petri and Plummer report larger projected gains from TPP in U.S. real income and exports than do the Commission findings.

Table ES.9: Comparison of Commission findings with Petri and Plummer

Author	Year of analysis	Change in real income (% of GDP)	Change in exports (%)
Commission	2032	0.2	1.0
Petri and Plummer	2030	0.5	9.1

Source: USITC estimates; Petri and Plummer, "The Economic Effects of the Trans-Pacific Partnership," 2016.

The Commission's simulation of the TPP Agreement differs from the simulation conducted by Petri and Plummer in four areas, and the different assumptions employed largely explain the difference in the final results. First, based on the Commission's industry expertise and its knowledge of particular factors affecting trade in specific sectors across the economy, the Commission's simulation was implemented at a more disaggregated sector level than the simulation in the Petri and Plummer analysis. As a result, the Commission's simulation includes economic conditions and TPP provisions which are sector-specific. Some examples are the preference of Japanese consumers for domestic beef meat, the limited available expansion capacity for Malaysian-approved Halal meat plants in the United States, the existing regime of import duty drawbacks in Vietnam, the potential impact of TPP rules of origin on Vietnamese trade, and the structure of the TPP Agreement's TRQ provisions. All of these factors are likely to limit the impact of certain TPP provisions on U.S. trade.

Second, the Commission quantified TPP's investment provisions at a more disaggregated sector level than did Petri and Plummer, taking into account particular aspects of each industry for each TPP country and assuming that regulations for U.S. FDI would not be affected by the TPP investment provisions if the United States already has a trade agreement with the partner country. As a result, the Commission's quantification of the agreement's investment provisions identified various degrees of changes in investment regulations at the sector level, ranging from no change for many sectors to significant change for just a few sectors. In contrast, Petri and Plummer estimated a single degree of investment liberalization across all industries for each TPP country and without excluding existing U.S. FTA partners, which produces larger estimated impacts of TPP's investment provisions.

Third, the Commission's simulations did not include any policy "spillover" effects. Petri and Plummer assumed that 20 percent of the liberalization of nontariff barriers under TPP would also apply to trade partners who are not TPP members. Such spillover effects may be a byproduct of the TPP Agreement, but they are not included in the provisions of TPP and are exceedingly difficult to quantify accurately. Thus, the Commission chose not to include them in the model. This factor was an important one in Petri and Plummer's overall results, and generated higher estimates of trade and real income changes than in the Commission's analysis.

Fourth, the Commission's simulation did not consider productivity differences at the firm level within a sector, while the Petri and Plummer simulation was based on a model of firm heterogeneity. Under such a model, reduction in foreign trade barriers can raise the average productivity of firms within a sector. In Petri and Plummer, this assumption leads to greater gains in U.S. trade and real income. The Commission has not used such a model in previous reports, and it was not feasible to develop such a model with the industry and country detail required for Commission analysis within the timeframe of this report.

The literature review presented in this report also discusses other studies that assess the economic impact of a hypothetical TPP, but in less detail, as the studies were conducted before the TPP negotiations were finished.